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PUBLIC SERVICE  
COMMISSION

June 16, 2003

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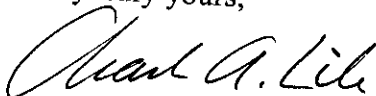
Mr. Thomas M. Dorman  
Executive Director  
Public Service Commission  
211 Sower Boulevard  
Frankfort, KY 40602

Re: 2003 Integrated Resource Plan  
PSC Case No. 2003-00051

Dear Mr. Dorman:

Please find enclosed for filing with the Commission an original and ten copies of the Petition of East Kentucky Power Cooperative, Inc. ("EKPC") for Confidential Treatment of Information relating to certain responses to requests for information by the Commission staff in the above-referenced case. Attached to the original Petition are pages from the responses to staff requests containing confidential information. Redacted copies of all responses are attached to the copies of the Petition.

Very truly yours,




Charles A. Lile  
Senior Corporate Counsel

Enclosures

Cc: Parties of Record

4775 Lexington Road 40391  
P.O. Box 707, Winchester,  
Kentucky 40392-0707

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A Touchstone Energy Cooperative 

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

RECEIVED  
JUN 16 2003

PUBLIC SERVICE  
COMMISSION

In the Matter of:

A REVIEW PURSUANT TO 807 KAR 5:058 )  
OF THE 2003 INTEGRATED RESOURCE )  
PLAN OF EAST KENTUCKY POWER ) CASE NO. 2003-00051  
COOPERATIVE, INC. )

PETITION FOR CONFIDENTIAL  
TREATMENT OF INFORMATION

Comes now the petitioner, East Kentucky Power Cooperative, Inc. ("EKPC") and, as grounds for this Petition for Confidential Treatment of Information (the "Petition"), states as follows:

1. This Petition is filed in conjunction with the filing of EKPC's responses to requests for information from the Commission staff in this case, and relates to confidential information contained in those responses that is entitled to protection pursuant to 807 KAR 5:001 Section 7 and KRS §61.878 (1) (c) 1 and related sections.
2. The information designated as confidential in the response to Staff Request 11 (b) relates to projections of future EKPC rate increases which will result from generating capacity additions projected in Section 11 of EKPC's Integrated Resource Plan ("IRP"). The confidential information in the response to Staff Request 12 relates to the calculation of the discount rate used to determine the revenue requirements and average system rates included in Section 11 of the IRP. EKPC requested confidential treatment for such information relating to projections of revenue requirements, interest rates and escalation

rates contained in the referenced Section 11 of the IRP in its Petition for Confidential Treatment of Information filed on April 18, 2003 in this case, and such treatment was granted by the Commission on April 28, 2003. The grounds for confidential treatment of the information in these responses are essentially the same as those stated in that prior Petition.

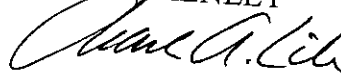
3. Disclosure of this information to utilities, independent power producers and power marketers that compete with EKPC for sales in the bulk power market, in conjunction with other EKPC confidential information, would allow such competitors to determine EKPC's power production costs for specific periods of time under various operating conditions and to use such information to potentially underbid EKPC in transactions for the sale of surplus bulk power, which would constitute an unfair competitive disadvantage to EKPC.

4. Along with this Petition, EKPC has enclosed one copy of the responses to Staff Requests 11 (b) and 12 with the confidential information identified by highlighting or other designation, and 10 copies of the complete responses to the Staff Requests with the confidential information redacted. The identified information is not known outside of EKPC and is distributed within EKPC only to persons with a need to use it for business purposes. It is entitled to confidential treatment pursuant to 807 KAR 5:001 Section 7 and KRS §61.878(1)(c)1, for the reasons stated hereinabove, as information which would permit an unfair commercial advantage to competitors of EKPC if disclosed. The subject information is also entitled to protection pursuant to KRS §61.878(1)(c)2c, as records generally recognized as confidential or proprietary which are confidentially disclosed to an agency in conjunction with the regulation of a commercial enterprise.

WHEREFORE, EKPC respectfully requests the Public Service Commission to grant confidential treatment to the identified information and deny public disclosure of said information.

Respectfully submitted,

DALE W. HENLEY



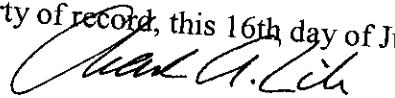
CHARLES A. LILE

P. O. BOX 707  
WINCHESTER, KY 40392-0707  
(859) 744-4812

ATTORNEYS FOR EAST KENTUCKY  
POWER COOPERATIVE, INC.

**CERTIFICATE OF SERVICE**

This is to certify that an original and 10 copies of the foregoing Petition for Confidential Treatment of Information in the above-styled case were hand delivered to the office of the Public Service Commission, 211 Sower Boulevard, Frankfort, KY 40601, and one copy was mailed to each party of record, this 16th day of June, 2003.



CHARLES A. LILE

(2003FACpetconfid2)

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2003-00051**

**IRP INFORMATION REQUEST RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 5/22/03**

**REQUEST 1**

**RESPONSIBLE PARTY: James C. Lamb**

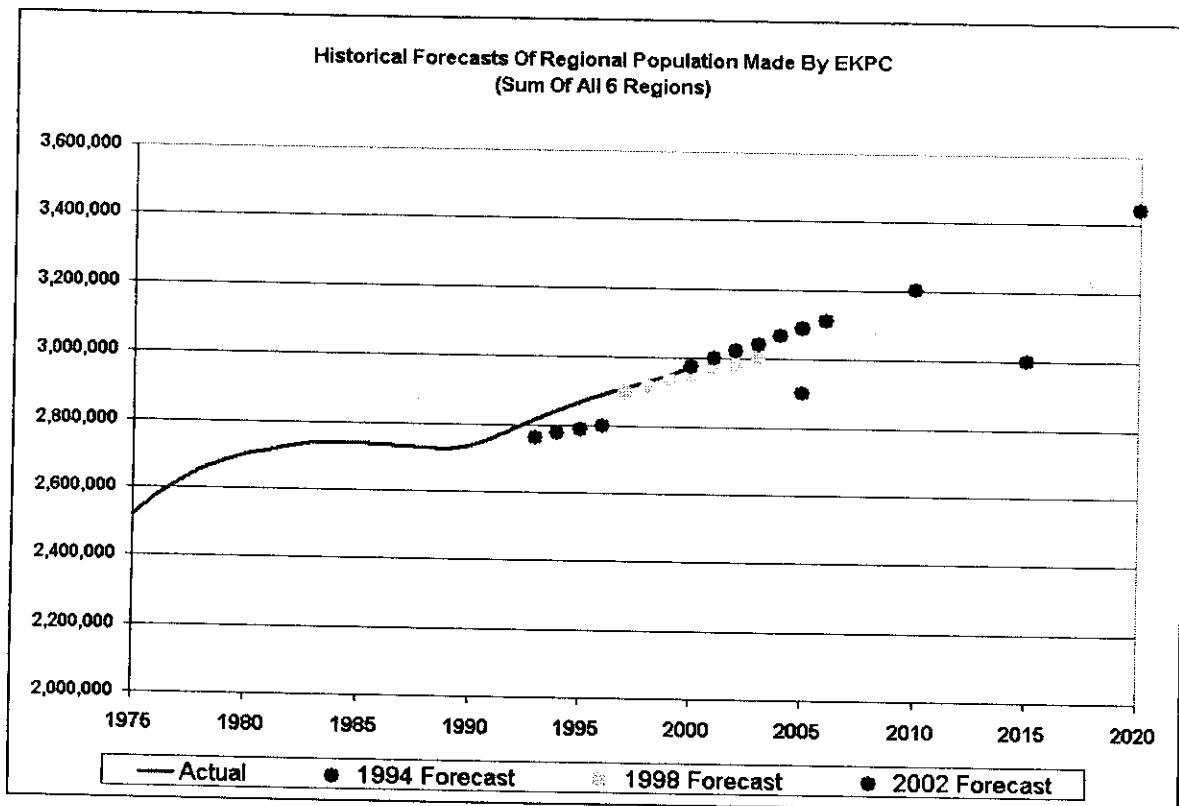
**REQUEST 1.** Refer to East Kentucky's Integrated Resource Plan ("IRP"), page 4, Section 1.2. Provide a narrative discussion of the accuracy of the demographics used by East Kentucky in past economic models. When possible, refer to comparisons of past forecast results versus actual results.

**RESPONSE 1.**

EKPC developed its regional economic model in the early nineties, for the following reason - EKPC's member systems were adding residential customers in great numbers, which was inconsistent with population and household forecasts being prepared by outside organizations. Such inconsistency raised the question of whether or not other organizations had a good understanding of Kentucky's economy and the link between economic growth and population change.

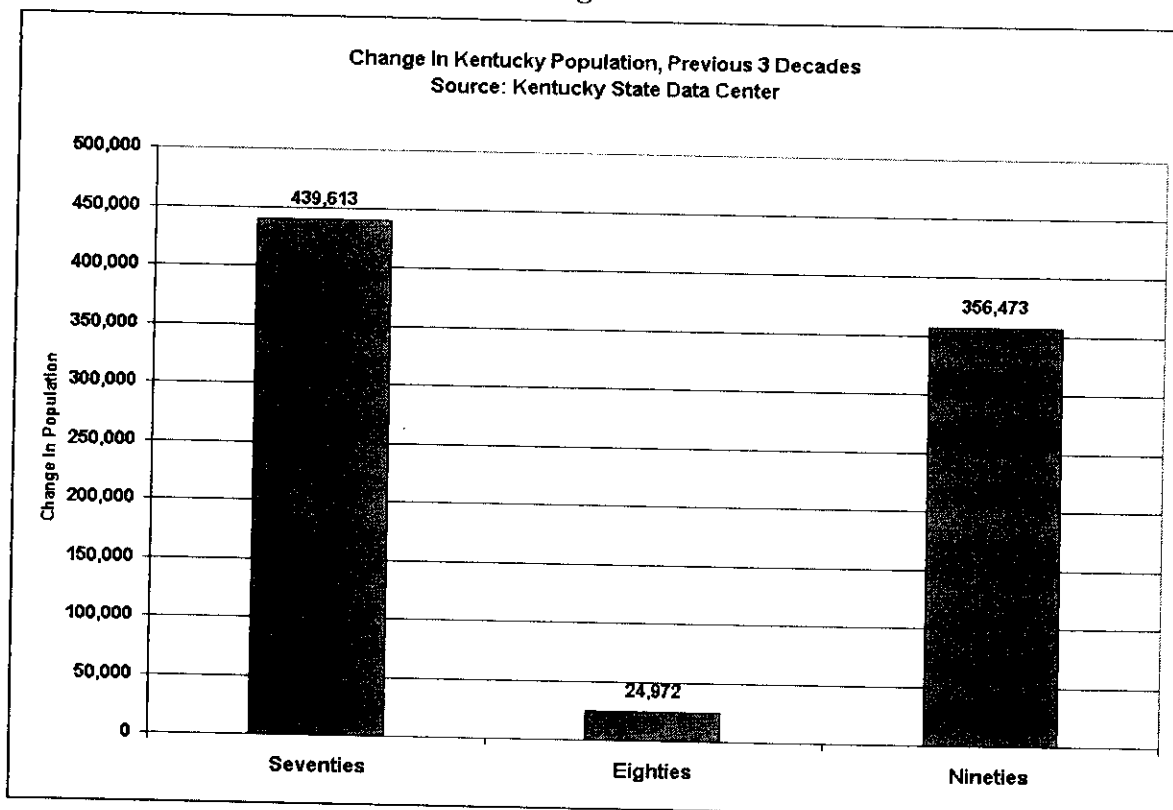
Figure 1 provides a review of EKPC's regional population forecasts. The figure reports the population forecast made in 1994, 1998, and 2002.

Figure 1



Population growth in Kentucky has been uneven over the past several decades, as illustrated in Figure 2. Because the historical data exhibit relatively high variation, forecasts of population need to be interpreted and used with care.

Figure 2



Note the correlation between the two Figures. The 1994 forecast of population tended to be lower than actual, as it was influenced more heavily by the decade of the eighties than the other two forecasts. In summary, EKPC load forecasts have been relatively accurate – this is partly due to information and forecasts provided via regional modeling.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2003-00051**

**IRP INFORMATION REQUEST RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 5/22/03**

**REQUEST 2**

**RESPONSIBLE PARTY: James C. Lamb**

**REQUEST 2.** Refer to page 22 of the IRP, which describes the input assumptions for the load forecast, and pages 180-181, which show the differences between the 2000 and 2002 load forecast results. Identify any changes in input assumptions between the two forecasts and describe how changes in assumptions impacted the 2002 forecast results compared to the 2000 forecast results.

**RESPONSE 2.** Changes in input assumptions

While, there were several modifications made to the 2002 load forecast, the resulting load forecast did not change by very much. As can be seen in the chart on page 181 of the IRP, while there have been updates to the 2002 load forecast model, the results are very close to the 2000 load forecast. There is very little change in energy or demand projected.

- ✓ The most significant change is the model used to generate the forecast. Prior to 2002, the forecast was SAS based. In 2002, a new modeling software was implemented, MetrixND. This software enabled EK to incorporate a statistically adjusted end-use (SAE) model. In the past, EKPC used a formal end-use approach to forecasting residential sales. As part of this modeling process, individual appliance saturations were forecasted using appliance choice modeling. Appliance usages were from conditional demand analysis on whole-house billing data. The basic form of this model was defined by the following equations. For each year "t", and for each end-use "i", end-use specific energy consumption is calculated for each end-use.



$$\text{Energy Use}_{i,t} = \text{Appliances}_{i,t} * \text{Usage}_{i,t}$$

$$\text{Appliances}_{i,t} = \text{Saturation}_{i,t} * \text{Customers}_t$$

Where,

**i= Number of Appliances = 1, 25**  
**t = Year**

Beginning with the 2002 load forecast, EKPC began using SAE models to forecast residential sales. This method of modeling still incorporates end-use forecasts in the background and can be used to decompose the monthly and annual forecasts into end-use components. SAE models offer the structure of end-use models while also utilizing the strength of time series analysis.

This method, like end-use modeling, requires detailed information about appliance saturation, appliance use, appliance efficiencies, household characteristics, weather characteristics, and demographic and economic information. The SAE approach segments the average household use into end-use components as follows:

$\text{Use}_{y,m} = \text{Heat}_{y,m} + \text{Cool}_{y,m} + \text{Water Heat}_{y,m} + \text{Other}_{y,m}$
---

Where,

y=year

m=month

Each component is defined in terms of its end-use structure. For example, the cool index may be defined as a function of appliance saturation, efficiency of the appliance, and usage of the appliance. Annual end-use indices and a usage variable are constructed and used to develop a variable to be used in least squares regression in the model. These variables are constructed for heating, cooling, water heating, and an “Other” variable, which includes lighting and other miscellaneous usages.

$$\text{CoolIndex}_y = \sum_{\text{Type}} \text{Wgt}^{\text{Type}} * \frac{\left( \text{CoolShare}_y^{\text{Type}} / \text{Eff}_y^{\text{Type}} \right)}{\left( \text{CoolShare}_{98}^{\text{Type}} / \text{Eff}_{98}^{\text{Type}} \right)}$$

$$\text{CoolUse}_{y,m} = \left( \frac{\text{CDD}_{y,m}}{\text{NormCDD}} \right) * \left( \frac{\text{HHSize}_y}{\text{HHSize}_{by}} \right) * \left( \frac{\text{Income}_y}{\text{Income}_{by}} \right) * \left( \frac{\text{Price}_{y,m}^{-.30}}{\text{Price}_{by}} \right)$$

Where, by=base year

$$\text{Cool}_{y,m} = \text{CoolIndex}_y * \text{CoolUse}_{y,m}$$

Variables for heat, water heat, and other sectors are also constructed in this same manner. The Cool, Heat, Water Heat, and Other variables are then used in a least squares regression which results in estimates for annual and monthly use per household.

Features of EKPC's SAE model are as follows:

1. Nearly 20 years of End-use Survey historical data are used to forecast saturation of appliances.

2. Appliance efficiencies due to government regulation have been accounted for in the model. Indices pertaining to appliance efficiency trends and usage are used to construct energy models based on heating, cooling, water heating and other energy for the residential class.  
Source: purchased national Energy Information Administration Annual Energy Outlook data, with the East South Central region representing Kentucky. New households and existing households in the market for new appliances encounter more efficient units.
3. Various demographic and socioeconomic factors that affect appliance choice and appliance use are present in the methodology. These include the changing shares of urban and rural customers relative to total, average household vintage, number of people living in the household, and other factors.

In addition, the following apply to the 2002 load forecast:

- ✓ MetrixLT software replaced HELM for converting the forecast to hourly data.
- ✓ Six weather stations were used instead of one. Since EK forecasts at the member system level, the appropriate weather data is used for each system. These forecasts are then summed to the EK system level.
- ✓ Every two years since 1981, EKPC has surveyed its member systems' residential customers. The most recent survey was conducted in 2001. EKPC gathers cross-section appliance, insulation, heating and cooling, economic, and demographic data. Appliance holdings of survey respondents are analyzed in order to better understand their electricity consumption and also to project future appliance saturations. The attached tables and figures depict the changes in these assumptions. (See attached Figures 1,2,3 and Charts 1 and 2.)

- ✓ An important part of EKPC's load forecast methodology is its regional economic modeling. Historical data on population, income, employment levels, and wages are collected at the county level from the U.S. Bureau of Labor Statistics and the U.S. Bureau of Economic Analysis ("BEA") and historical data on labor force size and the unemployment rate are collected at the county level from state sources. The historical county data are combined into six economic regions, and are analyzed and projected into the future. EKPC subscribes to the forecast services of Global Insight, an established consulting firm that supplies economic forecasts to thousands of U.S. firms. Regional economic activity is modeled using Global Insight's forecast of the U.S. economy as a driver. Consistent regional forecasts for population, income, and employment are developed. Population forecasts are used to project residential class customers; regional household income is used to project residential sales; and regional economic activity is used to project small commercial sales.

In conclusion, there are numerous model and methodology changes presented here. The overall impact of the changes relative to EKPC's 2000 load forecast is low.

Figure 1

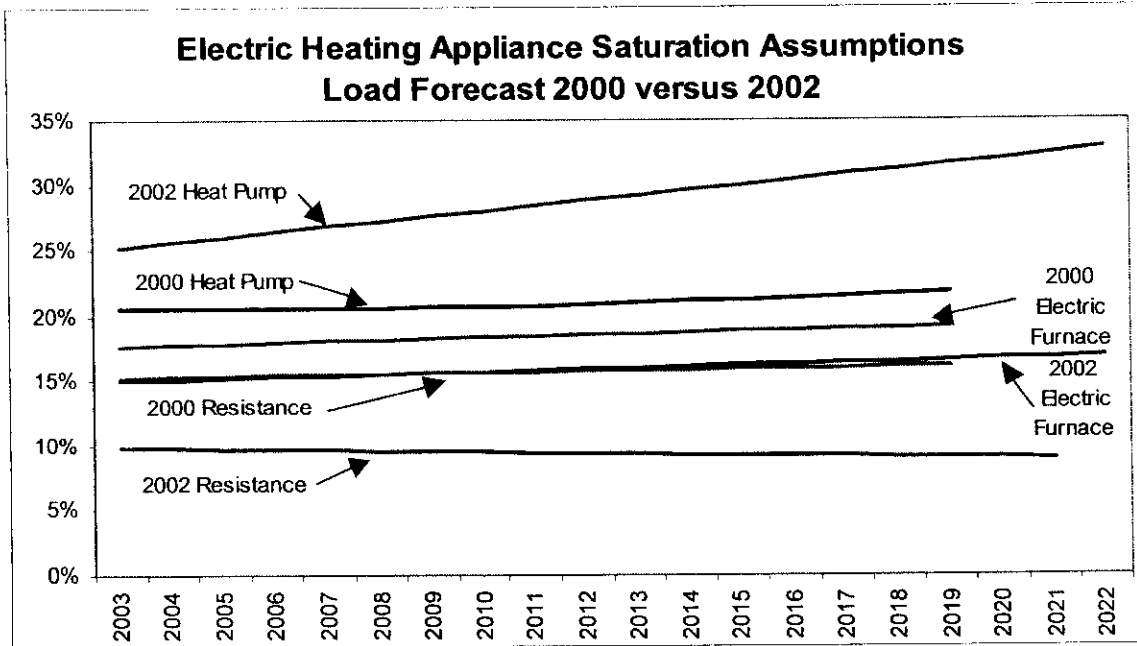


Figure 2

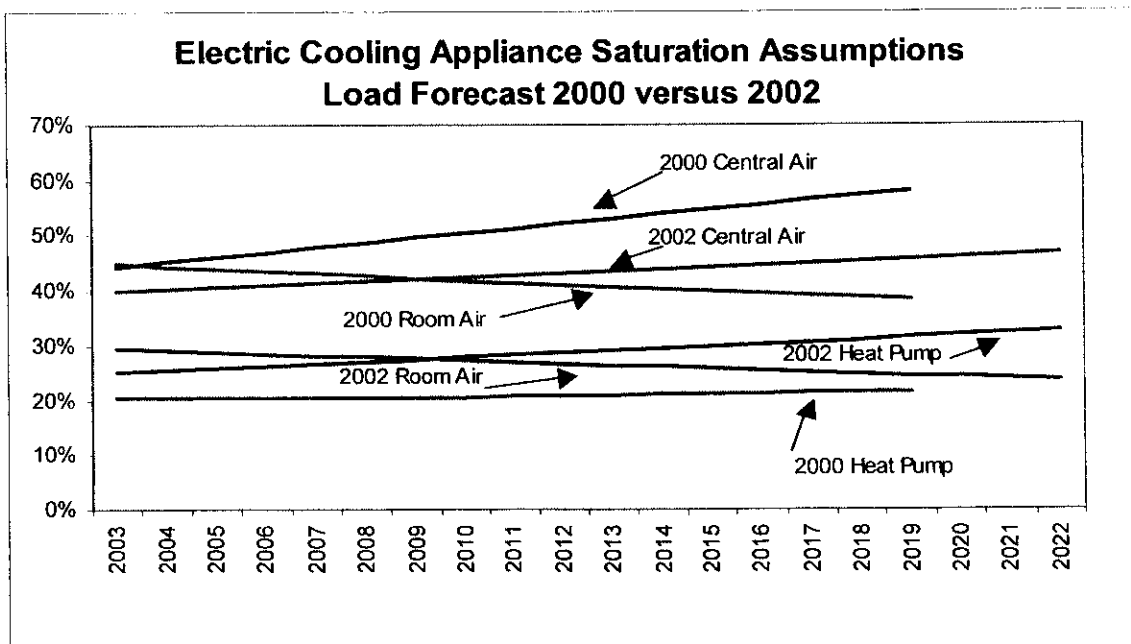
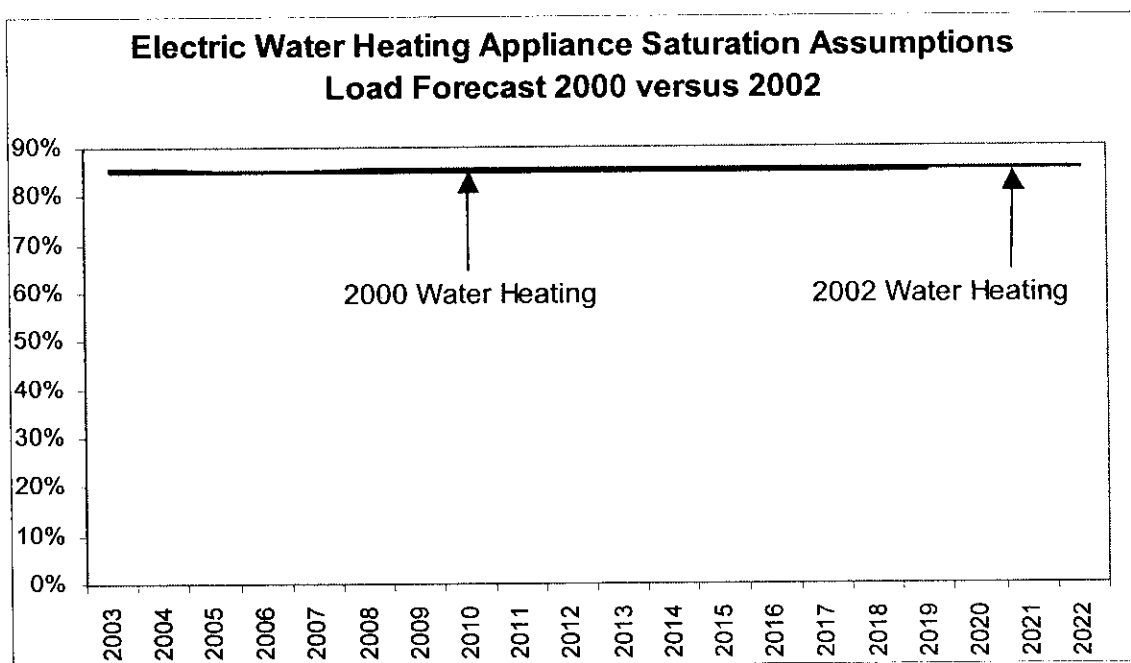


Figure 3



**Chart 1**  
**2000 Load Forecast**  
**Appliance Saturation Assumptions**

Year	Heat Pump Heating	Electric Furnace	Electric Resistance Heat	Central Air Conditioning	Heat Pump Cooling	Room Air Conditioning	Electric Water Heating
1985							
1986							
1987							
1988							
1989							
1990							
1991	11.1%	15.6%	22.1%	17.4%	11.1%	63.5%	87.3%
1992	12.7%	16.2%	22.2%	18.1%	12.7%	61.2%	85.8%
1993	14.3%	16.8%	22.5%	18.8%	14.3%	58.8%	84.3%
1994	17.9%	17.8%	24.0%	17.4%	17.9%	57.2%	86.6%
1995	21.5%	18.7%	25.6%	15.9%	21.5%	55.6%	88.9%
1996	22.2%	19.6%	23.4%	17.9%	22.2%	56.6%	89.5%
1997	22.9%	20.5%	21.3%	19.9%	22.9%	57.6%	90.0%
1998	20.4%	17.4%	14.2%	33.5%	20.4%	48.9%	85.7%
1999	20.8%	17.2%	15.0%	40.2%	20.8%	47.1%	85.7%
2000	20.8%	17.4%	15.1%	41.3%	20.8%	46.5%	85.6%
2001	20.8%	17.5%	15.2%	42.5%	20.8%	46.0%	85.6%
2002	20.8%	17.6%	15.2%	43.5%	20.8%	45.5%	85.5%
2003	20.6%	17.7%	15.3%	44.4%	20.6%	45.0%	85.4%
2004	20.5%	17.8%	15.3%	45.3%	20.5%	44.5%	85.3%
2005	20.5%	17.9%	15.4%	46.3%	20.5%	44.0%	85.3%
2006	20.5%	18.0%	15.4%	47.1%	20.5%	43.6%	85.2%
2007	20.6%	18.1%	15.5%	47.9%	20.6%	43.2%	85.2%
2008	20.6%	18.2%	15.6%	48.8%	20.6%	42.8%	85.2%
2009	20.7%	18.2%	15.6%	49.7%	20.7%	42.4%	85.1%
2010	20.7%	18.3%	15.7%	50.5%	20.7%	42.0%	85.1%
2011	20.8%	18.4%	15.7%	51.4%	20.8%	41.6%	85.1%
2012	20.9%	18.5%	15.8%	52.2%	20.9%	41.2%	85.1%
2013	21.0%	18.6%	15.8%	53.1%	21.0%	40.8%	85.1%
2014	21.1%	18.7%	15.9%	53.9%	21.1%	40.4%	85.1%
2015	21.2%	18.8%	15.9%	54.8%	21.2%	40.1%	85.1%
2016	21.4%	18.9%	16.0%	55.7%	21.4%	39.7%	85.1%
2017	21.5%	19.0%	16.0%	56.5%	21.5%	39.3%	85.1%
2018	21.6%	19.1%	16.0%	57.4%	21.6%	38.9%	85.1%
2019	21.7%	19.2%	16.1%	58.2%	21.7%	38.5%	85.1%

**Chart 2**  
**2002 Load Forecast**  
**Appliance Saturation Assumptions**

Year	Heat Pump Heating	Electric Furnace	Electric Resistance Heat	Central Air Conditioning	Heat Pump Cooling	Room Air Conditioning	Electric Water Heating
1985	10.4%	10.9%	9.2%	14%	10%	39.6%	81.5%
1986	11.2%	10.8%	9.0%	15.8%	11.2%	40.1%	82.0%
1987	11.9%	10.6%	8.8%	17.4%	11.9%	40.6%	82.4%
1988	12.3%	11.1%	9.7%	19.8%	12.3%	42.3%	82.2%
1989	12.6%	11.6%	10.6%	22.1%	12.6%	42.5%	81.9%
1990	13.7%	12.7%	10.7%	23.6%	13.7%	43.5%	83.6%
1991	14.7%	13.7%	10.8%	25.0%	14.7%	43.0%	85.2%
1992	15.5%	13.9%	10.8%	27.0%	15.5%	42.2%	85.1%
1993	16.3%	13.9%	10.9%	29.0%	16.3%	41.3%	85.0%
1994	16.9%	13.9%	11.0%	28.6%	16.9%	40.1%	85.0%
1995	17.4%	14.0%	11.0%	28.1%	17.4%	38.8%	85.0%
1996	18.6%	14.1%	10.7%	29.8%	18.6%	37.1%	85.0%
1997	20.0%	14.2%	10.5%	31.5%	19.8%	35.5%	85.0%
1998	21.4%	14.3%	10.4%	33.4%	21.1%	34.0%	85.0%
1999	22.4%	14.5%	10.2%	35.3%	22.1%	32.6%	85.0%
2000	23.4%	14.6%	10.0%	37.3%	23.2%	31.3%	85.0%
2001	24.4%	14.8%	9.9%	39.4%	24.4%	30.1%	85.1%
2002	24.8%	14.9%	9.9%	39.8%	24.8%	29.8%	85.1%
2003	25.2%	15.0%	9.8%	40.1%	25.2%	29.5%	85.2%
2004	25.6%	15.1%	9.8%	40.5%	25.6%	29.2%	85.2%
2005	26.0%	15.2%	9.7%	40.8%	26.0%	28.9%	85.2%
2006	26.4%	15.3%	9.7%	41.2%	26.4%	28.6%	85.2%
2007	26.8%	15.4%	9.6%	41.5%	26.8%	28.3%	85.3%
2008	27.2%	15.5%	9.6%	41.9%	27.2%	28.0%	85.3%
2009	27.6%	15.6%	9.5%	42.2%	27.6%	27.7%	85.3%
2010	28.0%	15.7%	9.5%	42.6%	28.0%	27.4%	85.3%
2011	28.4%	15.8%	9.4%	42.9%	28.4%	27.1%	85.4%
2012	28.8%	15.9%	9.4%	43.3%	28.8%	26.8%	85.4%
2013	29.2%	16.0%	9.3%	43.6%	29.2%	26.5%	85.4%
2014	29.6%	16.1%	9.3%	44.0%	29.6%	26.2%	85.5%
2015	30.0%	16.2%	9.2%	44.3%	30.0%	25.9%	85.5%
2016	30.4%	16.3%	9.2%	44.7%	30.4%	25.6%	85.5%
2017	30.8%	16.4%	9.1%	45.0%	30.8%	25.3%	85.5%
2018	31.2%	16.5%	9.1%	45.4%	31.2%	25.0%	85.5%
2019	31.6%	16.6%	9.0%	45.7%	31.6%	24.7%	85.5%
2020	32.0%	16.7%	9.0%	46.1%	32.0%	24.4%	85.5%
2021	32.4%	16.8%	8.9%	46.4%	32.4%	24.1%	85.5%
2022	32.8%	16.9%	8.9%	46.8%	32.8%	23.8%	85.5%



**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2003-00051**

**IRP INFORMATION REQUEST RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 5/22/03**

**REQUEST 3**

**RESPONSIBLE PARTY: James C. Lamb**

**REQUEST 3.** Refer to page 23, Section 3.2.3 of the IRP. In 2001 a residential customer on the East Kentucky system averaged 1,143 kWh usage per month. Provide a schedule that shows the annual average usage for a residential customer on East Kentucky's system for the years 1982-2002.

**RESPONSE 3.** Please See Next Page.

<b>Historical Residential Use Per Customer</b>	
<b>Year</b>	<b>Monthly Average (kWh)</b>
1982	874
1983	869
1984	881
1985	867
1986	895
1987	921
1988	962
1989	965
1990	951
1991	998
1992	980
1993	1,052
1994	1,037
1995	1,080
1996	1,115
1997	1,086
1998	1,097
1999	1,108
2000	1,136
2001	1,143
2002	1,178

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2003-00051**

**IRP INFORMATION REQUEST RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 5/22/03**

**REQUEST 4**

**RESPONSIBLE PARTY: David Drake**

**REQUEST 4.** Refer to pages 45-46 of the IRP and the discussion of the Kentucky Pioneer Energy ("KPE") project. East Kentucky has not included the KPE project in its IRP, citing the fact that KPE has not yet obtained financing and that the siting aspects of the project are under review by the Kentucky State Siting Board on Electric Generation and Transmission Siting ("Siting Board"). The Siting Board recently ruled that its April 16, 2003 Order denying KPE's proposal was not a final order for purposes of appeal.

**REQUEST 4a.** In the event KPE receives Siting Board approval at some later date and obtains financing for its project, what are East Kentucky's contingency plans regarding its contract to purchase the full output of KPE's generating facility?

**RESPONSE 4a.** EKPC and KPE have had discussions about the future of the KPE project, and generally agree that changes in conditions since the Power Purchase Agreement ("PPA") was first entered mean that significant amendments to that agreement would be required for the project to proceed. The on-going uncertainties about the Siting Board approval and the ability of KPE to finance the project make it impossible at this time to determine the specific terms that an amended PPA would contain. If KPE were able to successfully resolve its approval issues and terms for an amended PPA were negotiated which would be beneficial to EKPC's member systems, the PPA amendment would be submitted to the Commission for review and approval.

**REQUEST 4b.** If the KPE project receives all needed approvals, provide East Kentucky's estimate as to the length of time needed to complete the project.

**RESPONSE 4b.** KPE has advised EKPC that the project, as currently configured, could be completed in thirty months from the approval of financing.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2003-00051**

**IRP INFORMATION REQUEST RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 5/22/03**

**REQUEST 5**

**RESPONSIBLE PARTY: James C. Lamb**

**REQUEST 5.** Refer to East Kentucky's IRP, page 84, Table 6-9. Provide a revised version of the table including the results from the four traditional cost/benefit tests: the Participant Test, the Utility Cost Test, the Ratepayer Impact Measure, and the Total Resource Cost Test.

**RESPONSE 5.** Please See Next Page

Program	Distribution		Combined		Participant		TRC		Distribution		EKPC	
	RIM	EKPC	RIM	RIM	Participant	Participant	TRC	TRC	Utility	Utility	Utility	Utility
Air Source Heat Pump Program into New Homes	0.53	1.63	0.93	0.93	1.64	1.39	1.19	4.91				
Air Source Heat Pump Program into Existing Homes	0.15	0.51	0.25	0.25	1.71	0.59	0.21	0.21				
Efficient Water Heaters into New Homes	0.66	0.56	0.55	0.55	2.23	0.76	1.51	1.29				
Efficient Water Heaters into Existing Homes	1.37	0.95	1.17	1.17	0.77	1.01	0.06	0				
Tune-Up	0.78	1.04	0.88	0.88	2.78	1.82	1.98	3.3				
Button-Up	0.92	1.17	1.05	1.05	2.46	2.84	3.82	4.9				
Geothermal, New Homes, Non-ASCH	0.73	1.28	0.96	0.96	1.34	1.42	4.19	17.88				
Geothermal, New Homes, ASCH	0.85	1.52	1.16	1.16	1	1.56	7.58	38.19				
ETS Replacing Electric Furnace	0.61	0.82	0.68	0.68	1.35	0.86	3.09	6.93				
ETS Replacing Propane	1.2	1.01	1.12	1.12	1.21	1.62	0.06	0				

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2003-00051**

**IRP INFORMATION REQUEST RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 5/22/03**

**REQUEST 6**

**RESPONSIBLE PARTY: James C. Lamb**

**REQUEST 6.** Concerning the DSM option screening:

**REQUEST 6a.** Were the DSM programs tested by individual distribution cooperative and program or were the programs tested with all distribution cooperatives combined?

**RESPONSE 6a.** The programs were analyzed with all distribution cooperatives combined.

**REQUEST 6b.** If the DSM options were tested for each distribution cooperative separately, provide the results of the four traditional cost/benefit tests by individual distribution cooperative.

**RESPONSE 6b.** Please See 6a.

**REQUEST 6c.** If the DSM options were tested by combining the distribution cooperatives, explain in detail why the programs were analyzed in total.

**RESPONSE 6c.** As member systems evaluate their participation in new marketing programs, EKPC may construct analysis specific to their system. For the IRP, however, EKPC looked at the programs from an aggregated point of view.

Programs were analyzed in total because that is in keeping with the spirit and intent of the IRP. This IRP doesn't have as its goal 16 separate supply plans, rather the goal of the IRP is to produce a comprehensive least cost supply plan for EKPC.



**EAST KENTUCKY POWER COOPERATIVE, INC.**  
**PSC CASE NO. 2003-00051**  
**IRP INFORMATION REQUEST RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 5/22/03**  
**REQUEST 7**

**RESPONSIBLE PARTY:**                **Paul C. Atchison**

**REQUEST 7.**                Refer to page 90, Section 7.4 of the IRP. Explain whether the Midwest Independent System Operator has proposed any changes or upgrades to East Kentucky's transmission system. Described any proposals in detail.

**RESPONSE 7.**                To date, the Midwest Independent System Operator has not proposed any changes or upgrades to the East Kentucky Power transmission system.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2003-00051**

**IRP INFORMATION REQUEST RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 5/22/03**

**REQUEST 8**

**RESPONSIBLE PARTY:                Bob Hughes**

**REQUEST 8.**                On page 108 of the IRP, East Kentucky refers to potential reactivation of the Spurlock 2 flue gas desulfurization unit. Provide East Kentucky's current position on reactivating the unit. Explain how current or projected coal markets, as well as proposed environmental compliance changes, may affect East Kentucky's position.

**RESPONSE 8.**                East Kentucky's scrubber on its Spurlock Power Station Unit No. 2 was deactivated in approximately 1985. East Kentucky has performed an evaluation approximately every three years towards the end or renewal period of its compliance sulfur fuel contracts. Each of those periods has shown a lower cost option to East Kentucky and its Member Systems of purchasing compliance sulfur coal and not reactivating the scrubber. EKPC recently performed this same evaluation in 2002 by soliciting contract proposals for compliance and high sulfur fuels. East Kentucky also used the services of Alstom and B & W to provide costs for upgrading the existing scrubber, the use of limestone versus lime, and construction of a new scrubber. This evaluation again showed that the most economical option to East Kentucky and its Member Systems was to continue to utilize compliance sulfur fuel. Based on deteriorating reserves of compliance sulfur fuel and increasing compliance sulfur coal prices, East Kentucky projects that the scrubber may be reactivated in the 2006-2009 time period. East Kentucky will continue to perform evaluations to determine the least cost

option. East Kentucky continues to negotiate options into its compliance sulfur fuel contracts to allow East Kentucky to terminate its Spurlock Power Station Unit No. 2 contracts within one year if East Kentucky elects to reactivate its scrubber and purchase high sulfur fuel.

Projected changes in environmental regulations show a timetable of 2008-2012 for reductions in SO<sub>2</sub> emissions. These changes will be factored into the evaluation process.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2003-00051**

**IRP INFORMATION REQUEST RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 5/22/03**

**REQUEST 9**

**RESPONSIBLE PARTY: David Eames**

**REQUEST 9.** Refer to Page 124 of the IRP, specifically Section 9.6.1 and the December 2002 Request for Proposals (“RFP”) for peaking power. The second paragraph reflects that East Kentucky planned to complete its evaluation of the proposals received in response to this RFP in March of 2003.

**REQUEST 9a.** If completed, provide the results of the evaluation and identify any decisions that have been made related to meeting East Kentucky’s peaking requirements based on those results.

**RESPONSE 9a.** EKPC is currently negotiating with Bidder No. 10, for the purchase and erection of two GE Model PG7121EA nominal 80 MW simple cycle gas turbine generator sets at EKPC’s J. K. Smith site to be units No. 6 and No 7.

EKPC is also evaluating the feasibility of installing dispersed generation facilities on the EKPC transmission system. A proposal from Bidder No. 1 for the erection/lease of 20 MW to 100 MW of dispersed natural gas-fired generation facilities at various EKPC transmission substation sites is being considered to meet the remainder of peaking power requirements as set forth in RFP2002-02.

The J. K. Smith CT's arrangement and the dispersed generation arrangement were the evaluated least cost options available to EKPC under RFP 2002-02.

A summary report on RFP2002-02 results is being developed for the certificate filing.

**REQUEST 9b.** If the evaluation of the proposals has not been completed, when does East Kentucky expect to complete the evaluation?

**RESPONSE 9b.** See Response 9a.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2003-00051**

**IRP INFORMATION REQUEST RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 5/22/03**

**REQUEST 10**

**RESPONSIBLE PARTY: David Eames**

**REQUEST 10.** Refer to page 134, Section 9.6.9 of the IRP. Explain whether East Kentucky has performed any forecasts of growth in the number of customers or kWh usage of participants in its Enviro Watts program.

**REQUEST 10a.** If EKPC has performed forecasts on Enviro Watts participation, provide the forecast and all supporting calculations and workpapers.

**RESPONSE 10a.** The Enviro Watts program was initiated and approved by the Commission in the latter stages of 2001. While participation in the program has increased gradually as a result of educational efforts, the initial level of customer interest was limited and EKPC did not develop a forecast of the number of customers or kWh usage when the 2002 Load Forecast Study was prepared. EKPC will develop a specific forecast for the Enviro Watts program in its 2004 Load Forecast Study.

**REQUEST 10b.** If a forecast is not available, provide a narrative discussion of East Kentucky's expectations for Enviro Watts, including the expected growth in the program.

**RESPONSE 10b.** EKPC fully expects to increase the number of customers participating in the program over the next two years. Currently, as of June 2003, eight member systems have renewable resource tariffs approved by the Commission and in

operation and several others have filed for approval or are in the process of developing tariffs. As of its last quarterly report to the Commission in February of 2003, EKPC had a total of 155 customers from four member systems participating in the Enviro Watts program. The increased availability of member system tariffs, coupled with the educational aspects of EKPC's own Landfill Gas generation, will result in greater customer interest and higher levels of customer participation. EKPC expects the number of participants to exceed 200 by year-end.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2003-00051**

**IRP INFORMATION REQUEST RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 5/22/03**

**REQUEST 11**

**RESPONSIBLE PARTY: David Eames**

**REQUEST 11.** Refer to pages 168-175 of the IRP, Section 11.0, Financial Planning. East Kentucky projects the need to approximately double its generating capacity over the forecast period.

**REQUEST 11a.** What projections, if any, have been made regarding possible increases in wholesale electric rates related to these projected capacity additions?

**RESPONSE 11a.** Table 1-2, page 9 in the IRP, delineates the projected capital additions used in the IRP base case. East Kentucky has projected possible increases in electric rates, including assumptions related to these projections. The projections of future rate increases are listed in response to part b of this question

**REQUEST 11b.** For the complete forecast period, provide the estimated amount and approximate time of any projected increases in East Kentucky's wholesale rates.

**RESPONSE 11b.** During the forecast period used in the IRP, annual rate increases are projected in 2009 and 2011 for \$[REDACTED] and \$[REDACTED], respectively. Tentatively, we plan to implement an Environmental Surcharge in 2005 of \$[REDACTED] million, which will increase to \$[REDACTED] million in 2017 due to additional environmental costs.



**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2003-00051**

**IRP INFORMATION REQUEST RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 5/22/03**

**REQUEST 12**

**RESPONSIBLE PARTY:**                **David Eames**

**REQUEST 12.**        Refer to the IRP, page 175, Table 11-4. Describe all of the assumptions used in calculating the discount rate used for the Revenue Requirements and Average System Rates. Provide all supporting documents and calculations.

**RESPONSE 12.**        The discount rate of [REDACTED]% used for the Revenue Requirements and Average System Rates, Table 11-4, was based on EKPC's projected highest cost of capital of [REDACTED]% used in the IRP base case plus a Times Interest Earned Ratio (TIER) provision of 1.10.

The [REDACTED]% cost of capital was determined based on information from Standard & Poor's DRI issued 3<sup>rd</sup> quarter 2002. The average interest rates projected from 2003 through 2022 were [REDACTED]% for 10 year U.S. Treasuries and [REDACTED]% for 30 year treasuries. Since EKPC's borrowings from RUS are typically priced off of treasury rates, these projected rates were used as estimates for EKPC's cost of debt.

The TIER provision chosen of [REDACTED] is between the minimum [REDACTED] TIER required by EKPC's loan covenants and mortgage with RUS and a [REDACTED] TIER which was authorized by the Public Service Commission in East Kentucky's latest rate case.

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**PSC CASE NO. 2003-00051**

**IRP INFORMATION REQUEST RESPONSE**

**COMMISSION STAFF'S REQUEST DATED 5/22/03**

**REQUEST 13**

**RESPONSIBLE PARTY: Paul C. Atchison**

**REQUEST 13.** In the Commission's Administrative Case No. 387<sup>1</sup>, Paul Atchison of East Kentucky testified that three transmission facilities, the LG&E Blue Lick 345/161 kV transformer, the LG&E Blue Lick-East Kentucky Bullitt County 161 kV line, and the KU Ghent-KU West Lexington 345 kV line, are frequently congested, and that congestion of the Ghent-West Lexington line can reduce important capability at times.

**REQUEST 13a.** Provide information concerning the current levels of congestion on these facilities and steps that will be taken to reduce congestion.

**RESPONSE 13a.** The congestion on all three of these facilities is less today than when Case 387 response was written. The reason for less congestion on the first two facilities seems to be lower north to south flows on the transmission system. The steps to be taken to reduce congestion on these facilities are outlined in the attached EKPC/LG&E/TVA 161 kV Overload Procedure.

The congestion on KU Ghent to KU West Lexington 345 kV line was essentially eliminated when the line rating was significantly increased by LG&E.

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<sup>1</sup> Administrative Case No. 387, A Review of the Adequacy of Kentucky's Generation Capacity and Transmission System, final Order dated December 20, 2001.

**REQUEST 13b.** Explain whether the reduced import capability has an impact on East Kentucky's target reserve margins.

**RESPONSE 13b.** Since LG&E increased the 345 kV line rating, import capability has not been limited by this facility. We have not considered changing our target reserve margins.

## EKPC/LG&E/TVA 161 KV Overload Procedure

LG&E Blue Lick 345/161 Transformer Rating:

**Summer**

Normal – 240 MVA

Emergency – 276 MVA

**Winter**

Normal – 289 MVA

Emergency – 313 MVA

*\*Note: Time overcurrent relays set to 361 MVA for 1 minute.*

EKPC Bullitt County/LG&E Blue Lick 161 KV Line Rating

**Summer** Normal – 239 MVA

**Summer** Emergency – 276 MVA

**Winter** Normal – 279 MVA

**Winter** Emergency – 319 MVA

**Procedure To Alleviate Loading** of LG&E Blue Lick 345-138 KV transformer or the Bullitt Co. Blue Lick transmission line once they reach their emergency rating.

- 1.) Call LG&E to coordinate which company will initiate the “TLR” request. Notify the TVA Reliability Coordinator (423-697-4126) or LG&E will notify MISO to request a TLR (2) to curtail non-firm transactions on **Flowgate #2096 (Bullitt Co./Blue Lick 161 KV Tie). #2196 is the flowgate number assigned to LG&E Blue Lick 345/161 KV Transformer. Monitor line closely, due to rapid loading of this circuit.**
- 2.) Follow the TLR level process and request TLR Level 3a, 3b, or upto Level 4 as required. If line loading has increased to the point a Security Limit Violation will occur before the TLR process will provide the necessary relief, proceed to step 3.
- 3.) Notify LG&E Dix Dam, then open breaker W84-634 Bullitt County. This should provide immediate relief to flowgates #2096 or #2196. If the facility continues to load, proceed to step #4.
- 4.) Notify TVA Reliability Coordinator (423-697-4126) and request assistance with TLR in the Summershade area to reduce flow on the Blue Lick transformer or Bullitt Co.-Blue Lick Tie line.

- 5.) Request LG&E Dix Dam to open KU Shelbyville-LG&E Eastwood and KU Simpsonville-LG&E Middletown 69 KV lines. After confirmation of these circuits being opened, open breaker N53-614 at Shelby Co. This will open the EKPC Shelby/KU Shelbyville-KU Finchville tie at Bullitt County. If the facility continues to load, proceed to step #6.
- 6.) Notify TVA SERC Reliability Coordinator (423-697-4126) and TVA's Transmission Operator (James Regg at 423-751-6027) LG&E Dix Dam to inform them heavy loading still exists and we are considering opening the Bullitt County/TVA Summershade 161 KV and LG&E Paddy Run/TVA Summershade tie lines. (TVA may seek relief on another flowgate in order curtail loading on the EKPC/LG&E/TVA interface. If the facility continues to load, proceed to step #7.
- 7.) Notify MISO Reliability Coordinator (317-249-5519) before opening Bullitt County/TVA Summershade 161 KV tie line. **CAUTION:** *When heavy North to South Transfers are present Bullitt County breaker W84-1024 once opened may not be able to be closed until after peak hours due to the phase angle difference (seen by the sync-check relaying) between the LGEE-EK/TVA systems.* Open W84-1024 at Bullitt County. Monitor the loading on the Marion County 161/138 transformer (flowgate #2482), it may be near or exceed normal ratings. Notify LG&E Dix Dam, then close breaker W84-634 at Bullitt County. LG&E Dix Dam will most likely open their LG&E Paddy Run/TVA Summershade tie line due to increased loading. Proceed to step #8
- 8.) At this time loading on the LG&E Blue Lick 345-138 KV transformer or the Bullitt Co.-Blue Lick transmission line should be below normal line limits, however the Marion County 161/138 transformer may continue to increase. If the transformer loading has increased to the point a Security Limit Violation will occur, notify LG&E Dix Dam that we will need to open W3-644 at North Springfield to reduce loading at the Marion Co. transformer (flowgate #2482).
- 9.) Open W3-644 at North Springfield on the EK North Springfield/KU Lebanon tie, this should reduce loading at the Marion Co. transformer (flowgate #2482).
- 10.) Once the North-South transfers are reduced for the day, restore the facilities listed above back to normal.